

Name _____ Date _____

MULTIPLYING AND DIVIDING RADICALS

Simplify

1. $\sqrt{90a^{17}} =$

2. $\sqrt{28a^{14}b^{11}} =$

3. $\sqrt[3]{72a^{19}b^6} =$

4. $\sqrt{8a^7b^3} \cdot \sqrt{5a^4b^5} =$

5. $\sqrt[3]{16a^9b^{13}} \cdot \sqrt[3]{5a^3b^6} =$

6. $2\sqrt{12x^8y^{11}} \cdot -4\sqrt{6x^7y} =$

7. $3\sqrt[3]{9x^3y^{11}} \cdot 4\sqrt[3]{18x^7y^3} =$

8. $\frac{\sqrt{108x^{17}y^{13}}}{\sqrt{6x^{10}y^5}} =$

9. $\frac{\sqrt[3]{144x^9y^{17}}}{\sqrt[3]{9x^7y^{12}}} =$

10. $\frac{\sqrt{54a^{17}b^8}}{\sqrt{36a^{10}b^{14}}} =$

11. $\frac{\sqrt[3]{30a^{13}b^7}}{\sqrt[3]{48a^7b^{18}}} =$

12. $6\sqrt{2}(3\sqrt{5} + 7\sqrt{3}) =$

13. $\frac{9\sqrt{3} - 4\sqrt{6}}{7\sqrt{2}} =$

14. $\frac{8\sqrt{6} + 4\sqrt{2}}{3\sqrt{3}} =$